

Report to the Board of Estimate and Taxation

by the
BET Pension Liability Special Project Team

20 September 2021

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Project Team Scope and Process

- Last April, the BET approved the appointment of members Bill Drake (Chair), Andy Duus, Miriam Kreuzer, and David Weisbrod to a special project team (the “Team”). Its purpose was to identify and evaluate potential means to reduce the annual cost (\$28 million in 2021) of the Town’s defined benefit pension obligation.
- The Team met six times over a period of several months. Often participating were the Town’s Comptroller Pete Mynarski and the Town’s outside actuary Greg Stump of Boomershine Consulting Group.
- The Team considered the target funded ratio of the pension plan as well as a range of potential options that would increase the funded ratio by either increasing pension assets or reducing pension liabilities.

Project Team Scope and Process (cont.)

- An impetus for the creation of the Team was interest to capture near-term budget flexibility. Given the long-term nature of the Town's liability, however, the Team also considered each option's potential effect over a longer-term.
- The Team adopted this report of its findings unanimously in its final meeting, on September 13, 2021.
- The Team would like to express its thanks for the guidance and feedback provided by Mike Mason, Pete Mynarski, Greg Stump, Ken Berkson, Mike Wacek, Andrew Greco and Larry Simon.

Recommended Funded Ratio Range

- The Team believes that the optimal funded ratio percentage of the pension plan should range from the high 80s to the low 90s. The Town's outside actuary Greg Stump concurs with this range.
- Funded ratios above the range pose the following potential issues:
 - Increased volatility of the annual ADEC.
 - Reduced negotiation leverage with collective bargaining units.
 - Contributions are irrevocable. If the plan becomes overfunded - whether due to future market performance, reduction of plan participants, or other - it would not be possible to return the excess to the Town.
- As the funded ratio *rises*, it is possible that the Retirement Board may seek to reduce the riskiness of the pension asset portfolio. Doing so, however, could cause (a) a reduction in the assumed return on the portfolio, (b) a concomitant reduction in the assumed discount rate for the pension liability, and (c) as a consequence, a *reduction* in the earlier rise in the funded ratio.

Potential Actions Considered to Increase Funded Ratio

- The Team considered certain potential actions that would increase the Pension Plan assets that are within the purview of the BET. These options include the following:
 - Pension Bond Obligation ("POB")
 - 'Hyper-Amortization'
- The Team also considered other potential actions that would decrease the Pension Plan liability (and which would require the cooperation of the Retirement Board). These options include the following:
 - Pension Risk Transfer
 - Deferred Retirement Option Plan ("DROP")
 - Lump-Sum Pension Buyout
- The Team believes that each of these potential actions may pose incremental costs and/or risks for the Town. See Chart 17 for a summary comparison.

Potential Actions Considered to Increase Funded Ratio (cont.)

- The exceptional market performance of the Pension Plan this past fiscal year, however, increased the cash value of the pension assets by the most recent annual valuation date of July 1, 2021, to \$613 million, subject to finalization of private investment values. This places the fund well above the minimal recommend funded ratio range. See Slides 13 and 14.
- Therefore, we do not recommend any action at this time that would either increase pension assets or decrease pension liabilities.
- The required annual cash contributions by the Town to the Plan, however, are based on actuarial values. Therefore, if the Plan's future investment performance would approximate its assumed return, the Town would recognize increasing budgetary relief - due solely to this past year's market performance - over the next five years and thereafter. See Slide 15.

Additional Observations

- In a letter dated February 2, 2016, then Town Attorney Wayne Fox indicated that the BET has the right to review the reasonableness of certain assumptions adopted annually by the Retirement Board. These assumptions include the expected return on assets, the liability discount rate and amortization period of investment gain/losses and funding the the underfunding. The Town's Law Department recently reaffirmed the 2016 opinion.
- In future years, to the extent there is budget flexibility, the Town might consider making pension plan contributions modestly higher than that required by the ADEC. A significantly greater contribution, however, may expose the Town's borrowings to recharacterization as arbitrage debt, which would eliminate tax exemption of interest earned by investors.

Background Exhibits

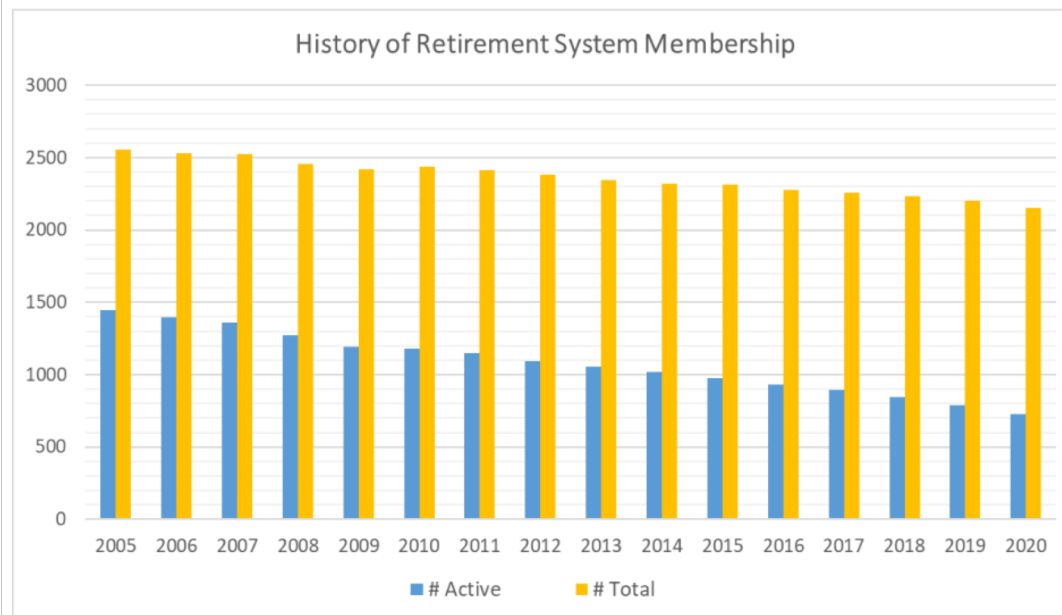
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Summary of the Town's Defined Benefit Pension Plan

- The defined benefit pension plan of the Town, formally called the Retirement System (“System”) of the Town of Greenwich, began operations in 1946.
- Historically, participation in the System had been extended to all full-time employees of the Town who are classified as General, Fire or Police personnel. Peak membership was in 2004 (see next slide).
- In recent years, however, membership in the System has been no longer offered to certain new employees hired after a certain date: Teamsters and GMEA (2005), Elected Officials and M&C employees (2006), LIUNA (2008), Nurses (2009), and Police (2019). Newly hired firefighters had been last remaining set of Town employees eligible for the defined benefit pension plan. On August 18, 2021, however, an arbitration agreement (which the RTM did not choose to reject) disallowed participation of firefighters hired thereafter in the Pension Plan.

Declining Plan Participation

- As a consequence, participation in the Plan has been declining from its peak on 2004. The number of active participants (blue bars) has been declining at an annualized rate of 4.5% whereas the number of total participants (yellow bars) has been declining at an annualized rate of 1.1%. Source: *July 1, 2020 Actuarial Valuation* published November 2020



Calculation of the Annual Town Contribution

- Accounting rules and the Town Charter (Article 14, Section 205) require that the Town make an annual contribution to the Pension Fund. The contribution is now referred to as the Actuarially Determined Employer Contribution (“ADEC”).
- The ADEC for the current ‘22 fiscal year is \$28.3 million, which equals \$9.7 million for the current year’s ‘normal’ cost and \$18.7 million for amortization of the underfunding.
- The calculation of the ADEC is based on the prior year July 1 valuation date, and becomes the required contribution for the following fiscal year. For example, the contribution required to be made the current ‘22 fiscal year was based on the Pension Plan’s valuation on the first day of fiscal ‘21 (July 1, 2020).
- Plan assumptions, including the assumed return on pension assets, affect only the *timing* of the Town’s contributions. In the long-term, it is the experience results and the realized return on pension assets that determine the total *required amount* of the Town’s contributions.

Calculation of the Annual Town Contribution (cont.)

- Factors affecting its calculation include the terms of the pension contracts, certain experience results and demographic assumptions made by the actuary, and the following assumptions made by the Retirement Board:
 - Assumed Return. The assumed return on assets/ discount rate on liability was 6.25% for FY22. Decreasing in recent years, this assumed rate is now lower than the average assumed by Connecticut municipalities. The Retirement Board has indicated that it may decrease it to 6.00% for purposes of calculation the FY23 contribution.
 - Amortization of Investment Gains/Losses. Annual investment gains/losses are amortized uniformly over five years. This is done to smooth the effect of market fluctuations on the ADEC. Greenwich assumes five years, which is the customary period done by municipalities.
 - Amortization of the Underfunding. For the ADEC payable this year, underfunding was amortized over 13 years. It is scheduled to decrease annually by a year each year until reaching ten years in FY25. Greg Stump recommends keeping the ten-year open structure.

The Funded Ratio

- The funded ratio equals the pension assets divided by the present value of the pension liability.
- The Pension Plan has been underfunded since July 1, 2008, when the Retirement Board reduced its assumed return on assets from 8.50% to 8.0%, in response to the then financial crisis and concomitant market decline
- Guiding the Retirement Board's estimate of prospective return on assets are the risk-free rate and the estimated market risk premia associated with different asset classes. As both have continued to decline since 2008, the Retirement Board has made a series of steady reductions in the assumed investment return and discount rate on the pension liability
- As a consequence, the funded ratio percentage had remained consistently in the 70s, until the most recent July 1 valuation date.

Improved Funded Status

- This past fiscal year, the market value of the pension assets rose 25% to \$613 million, again subject to finalization of private investment values. Subsequently, through August 31, plan assets have increased to \$648.8 million, due to (a) the Town's contribution last July of the FY22 ADEC of \$28.3 million and (b) investment gains of \$7.5 million.
- We will not know the July 1, 2021, accrued value of the pension liability until later this year. If the pension liability remains unchanged at \$662 million, the funded ratio on a market value basis rose from 74.3% last year to 92.5% this year. Likely, however, the pension liability would be slightly higher, and if the Retirement Board would reduce the discount rate from 6.25% to 6.00%, the funded ratio may be closer to 90%.
- The recent investment gain, as are all investment gains and losses, are amortized over five years. Therefore, as shown on the following slide, the ADEC will decline ratably over the next five years, holding all else constant.

Projected ADECs

- Below is a table of ADECs through FY27, projected in July 2020 and in July 2021, assuming future assumed and realized investment performance of 6.25% and of 6.00%. (\$ in millions). The Retirement Board has signaled that it may reduce the assumed investment return rate from 6.25% to 6.00% for next year.

Valuation Date	Contrib. Fiscal Year	Projected 7/20	Projected @ 7/21	
		ADEC at 6.25%	ADEC at 6.25%	ADEC at 6.00%
7/1/2020	2022	\$28.3 A	-	-
7/1/2021	2023	\$27.8	\$25.8	\$28.6
7/1/2022	2024	\$27.8	\$22.4	\$25.5
7/1/2023	2025	\$27.3	\$18.1	\$21.3
7/1/2024	2026	\$26.2	\$14.2	\$17.1
7/1/2025	2027	\$24.6	\$10.2	\$13.0
Source: Greg Stump. Assumes future investment returns are realized as assumed, at 6.25% and 6.00%, with no experience gains or losses. Excludes the incremental annual cost for the recently arbitrated firefighters contract.				

Options Exhibits

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Increase Pension Assets:	
• Pension Obligation Bond	18
• ‘Hyper-Amortization’	20
Decrease Pension Liability:	
• Pension Risk Transfer	22
• Deferred Retirement Option Plan	25
• Lump Sum Pension Buy-Out	28

Summary Comparison of Options

	<u>Savings Potential</u>	<u>Savings Certainty</u>	<u>Key Risk/Issue</u>
<u>Increase Pension Assets:</u>			
• Pension Obligation Bond	High	None	Market
• ‘Hyper-Amortization’	Limited, due to legal limit	None	Market/legal, competing needs
<u>Decrease Pension Liability:</u>			
• Pension Risk Transfer	Limited, due to contract cost	Yes	Legal/accounting, ltd. mun. preced.
• DROP	Limited, due to early payout	Limited	Complexity
• Lump-Sum Pension Buyout	Limited, due to option only	Yes, initially	Adverse selection, ltd. mun. preced.

Pension Obligation Bond Description

- A pension obligation bond (“POB”) is a taxable bond issued by a state or municipality to help fund its pension plan.
- A POB captures the difference between the future (unknown) investment returns and the cost of the taxable funding. Because it is a taxable bond, the investment of the POB proceeds is not subject to the federal anti-arbitrage rules.
- In effect, a POB converts a less-defined ‘soft’ cost (the future pension liability) into a defined ‘hard’ cost (the future debt service on the POB).
- Many states and municipalities have issued POBs. Notably, the State of Connecticut issued \$2.3 billion POB in 2008 and contributed the proceeds into the State Teachers’ Pension Plan. Most recently, on June 24, 2021, West Hartford priced a \$325 million POB, maturing over 25 years, at an all-in cost of 2.539%.

Pension Obligation Bond Potential Issues

- Market timing is the biggest risk. The potential investment gains may not be realized.
 - The longer the term of the POB, the higher is the probability that the return on a diversified portfolio would exceed the cost of the POB.
 - To minimize the risk of investing at the top of the markets, possibly a series of smaller POBs could be issued and reinvested by the Town over-time.
- The POB bond is taxable and therefore more costly
 - As interest rates have declined, however, the difference between taxable and tax-exempt rates have narrowed significantly.
- Increase in debt
 - It is not clear to the extent the increased debt would be offset by the reduced pension liability in the minds of the debt rating agencies and investors. In any event, if the Town were to consider the issue of a POB, the BET's debt policy would require revision.

“Hyper-Amortization” Description

- “Hyper-Amortization” means that the Town would contribute significantly more than the ADEC every year to the Pension Plan. An extreme example would be a POB.
- In recent years there have been advocates for hyper-amortization of the pension underfunding - achieved by reducing the amortization period of the underfunding to below the current target of ten years - and funding the incremental increase in the ADEC with the proceeds of longer-term borrowings.
- The key rationale for hyper-amortization is the opportunity to earn more than the Town’s cost of funding. It would require integration with the BET debt and fund balance policies.

“Hyper-Amortization” Potential Issue

- Tax counsel advises that any incremental pension contributions (other than state-approved POBs) may be done only on a modest scale. Otherwise, Town borrowings to fund these incremental contributions to the Pension Plan would risk characterization as ‘arbitrage ‘ bonds, which would cause the loss of tax-exemption of the interest earned by investors.

Pension Risk Transfer Description

- The Town might consider the purchase of an annuity from an insurance company to cover the pension obligation (called ‘Pension Risk Transfers”).
- Many public companies have done these transactions.
 - The primary motivation has not been economic. Typically, companies that have purchased contracts had fully funded pensions and already use discount rates for their pensions similar to that used by the insurers (< 3%) assuming the pension obligation.
 - Rather, the motivation has been to reduce earnings volatility. The volatility stems from the GAAP requirement that public companies report the changes in the value of their net pension liability.
- Likely for reasons summarized on the next slide, however, we are not aware of any state or municipality purchasing an annuity for this purpose.

Pension Risk Transfer

Potential Issues

- The annuity would be extremely costly, due primarily to the discount rate applied by the insurer would likely be significantly less than the 6.25% rate used by the Town. Thereby, the annuity purchase cost payable by the Town could be approximately by \$100 -200 million above the Plan's recent accrued value. Other potential issues:
 - It is not clear that a Connecticut municipality would be allowed to issue non-POB debt for this (non-capital) purpose.
 - A state or municipality may not be permitted to re-assign the obligation for the retirement payments to the insurance company. If the state or municipality would remain the obligor, auditors would require that the pension liability to remain continue to be reported in its financials.
 - Even if the reassignment would be legal, the retirees might object if there is a possible reduction in the credit quality of the obligor. There may be no diminution of credit quality, however, to the extent the state in which the insurance company is domiciled guarantees annuity contracts.

Pension Risk Transfer Illustrative Example

- Based on the July 1, 2020, valuation, the Town has a total pension liability of \$662 million, based on a discount rate of 6.25%. Of this, \$278 million was owed to active members and \$384 million was owed to inactive members.
- The total cost of an annuity contract is estimated (per Greg Stump) to be \$1,021 million, or \$476 million for active members and \$545 million for inactive members. This contrasts to Plan assets of \$613 million.
- The annuity could be more expensive due to changes in the discount rate and other assumptions.

Deferred Retirement Option Plan Description

- A deferred retirement option plan (or “DROP”) permits an employee eligible to retire to keep working without any further increase in their future retirement benefits..
- Therefore, as compensation, the Town would either (a) begin placing lump sums into an interest-bearing account annually, or (b) make payments while the employees continues to work either directly to the employee or into a fund on the employee’s behalf over-time.
- More frequently seen for public sector employees, a DROP would apply to someone who (a) has a defined benefits retirement plan from their employer and (b) is of retirement age, but chooses to continue working.
- The key difference of a DROP versus an early retirement plan would have the employee leave, whereas the DROP would have the employee remain.

Deferred Retirement Option Plan

Potential Issues

- The key advantages include (a) the employer gets to retain the employee's services (without further increasing that employee's pension payout), and (b) the employee who accepts a DROP may begin to receive incremental cash payments while still working.
- The key disadvantages are (a) too generous incentive payments to the employee can be more expensive for the employer, and (b) any lump sum paid to the employee, if not rolled over into another qualified plan, would be taxed at ordinary rates and possibly in a higher tax bracket.
- The source of potential economic value for the Town is not clear. On a simple cash flow basis, any cash incentive provided the employee costs the Town the same. On a present value basis, however, to the extent the Town has a lower discount rate than does the employee (and it generally would), a DROP may create potential value which could be shared between the Town and the employee. Greg Stump estimates that the Town would owe \$70 million more in annual pension payments if eligible employees accepted a DROP.

Deferred Retirement Option Plan Design Considerations

- Plan design considerations:
 - Participation length is usually limited to three to four years.
 - Need for the employer to specify the payment amount and interest, and whether the payments are made directly to the employee or invested on their behalf. May affect the employee's taxation.
 - Need to specify whether the employee who accepts the DROP is deemed "formally retired" and how would that affect their benefits.
- Note that another form of DROP in which the plan participant's retirement benefits are frozen but paid early while the participant continued working was considered, but ultimately viewed unfavorably by the Team. This structure would undermine the actuarial assumptions and experience study which forms the basis of the ADEC calculation. The likely outcome would be an acceleration of the liability payment and hence an increase in the ADEC.

Lump-Sum Pension Buyout Description

- The Town could offer to purchase the pension owed each pensioner based on a discount rate could be higher, equal to, or lower than the assumed investment return of 6.25%. The lower the rate, the more attractive for the pensioner.
- Many companies have made lump-sum buyouts of participants in their pension plans, primarily motivated to reduce the volatility of reported earnings.
- Far less common are lump-sum pension buyouts by states and municipalities. Some years ago, the State of Connecticut did a debt-funded lump-sum buyout of participants in its Second Injury Fund, cited as a “perfect precedent” by Richard Siegal, bond counsel. The only other state, to our knowledge, to offer a pension buyout is Missouri. In 2017 it offered 17,000 former state employees lump sums, based on their age (of which 22% accepted the buy-out offer).

Lump-Sum Pension Buyout

Potential Issues

- A buyout at a discount rate higher than the rate assumed by the Retirement Board could be fully funded by the assets in the plan. To the extent the buyout discount rate would be below the rate assumed by the Retirement Board, the more expensive would be the buyout and greater would be the need to obtain supplemental funding.
- Pensioners who accept the offer would gain control of their pension assets that would allow them to invest as they see fit, and to bequeath potentially to their heirs. Any potential taxable gain on the buyout could be deferred by rolling the distribution in to an IRA or equivalent.
- The primary disadvantage of a buyout for the Town is potential “adverse selection” by the retirees; in other words, those retirees who believe that they (and their beneficiaries) would live less than average might accept the offer. If that were to happen, the realized savings might be much less, if any, over time.

Appendix

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Pension Fund Historical Data	31
Pension Fund Asset Portfolio at June 30, 2021	32
Graphs of Future ADECs, assuming 6.25% and 6.00% returns	33

Pension Fund Historical Data (in \$millions)

Valuation Date (July 1)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
				(b)						
Recommended ADEC (a)										
Normal	\$9.6	\$9.2	\$8.3	\$7.8	\$8.0	\$8.2	\$8.0	\$7.8	\$7.1	\$7.0
Amortization of Underfunding	<u>\$18.7</u>	<u>\$16.9</u>	<u>\$14.7</u>	<u>\$13.3</u>	<u>\$13.9</u>	<u>\$13.8</u>	<u>\$13.6</u>	<u>\$14.9</u>	<u>\$12.7</u>	<u>\$9.4</u>
Recommended ADEC	\$28.3	\$26.1	\$23.7	\$21.1	\$21.9	\$22.0	\$21.6	\$22.7	\$19.8	\$16.4
Actual TOG Contribution	\$28.3	\$26.1	\$23.7	\$21.1	\$21.9	\$22.0	\$21.6	\$22.7	\$19.8	\$16.4
Actuarial values:										
Accrued Liability ("AAL")		\$662.4	\$629.8	\$602.3	\$561.2	\$545.3	\$530.8	\$497.5	\$478.5	\$450.2
Assets		\$504.3	\$481.8	\$461.3	\$433.6	\$406.8	\$388.8	\$356.6	\$323.5	\$318.0
Funded ratio		76.1%	76.5%	76.6%	77.3%	74.6%	73.2%	71.7%	67.6%	70.6%
Market values:										
Assets	613.0	492.4	496.6	468.9	438.4	385.3	391.9	387.8	333.2	303.2
Funded ratio		74.3%	78.9%	77.8%	78.1%	70.7%	73.8%	77.9%	69.6%	67.4%
Investment return, net		1.1%	5.7%	9.6%	14.8%	-1.0%	1.4%	16.9%	11.3%	0.8%
Participants:										
Active		729	788	842	892	932	978	1,019	1056	1094
Retired		<u>1,424</u>	<u>1,415</u>	<u>1,391</u>	<u>1,363</u>	<u>1,347</u>	<u>1,333</u>	<u>1,303</u>	<u>1,286</u>	<u>1,287</u>
Total		2,153	2,203	2,233	2,255	2,279	2,311	2,322	2,342	2,381
Key Assumptions:										
Assumed investment return, net		6.25%	6.50%	6.50%	6.75%	6.75%	6.75%	7.00%	7.25%	7.50%
Amor. of investment returns		5	5	5	5	5	5	5	5	5
Amor. of underfunding (yrs)		13	14	15	16	17	18	19	20	21
Notes (a)	Payable in the immediately following fiscal year.									
(b)	The recommended ADEC is after the effect of a \$3.2 million increase in the Police COLA benefit, to be amortized over 5 years, increasing the ADEC from 22.9 MM.									
Sources:	Annual Actuarial Reports									
	Comprehensive Annual Financial Reports									
	Ken Berkson, Pension Administrator									

Pension Fund Asset Portfolio (at June 30, 2021)

Portfolio Overview

THE RETIREMENT SYSTEM OF THE TOWN OF GREENWICH

REPORT AS OF: June 30 , 2021

ASSET ALLOCATION

DESCRIPTION	MARKET VALUE	% OF ASSETS
Defensive		
Cash & Cash Equivalents	\$17,280,847	2.8%
U.S. Treasuries	\$150,780,652	24.6%
Non-U.S. Government Bonds	\$0	0.0%
Subtotal	\$168,061,498	27.4%
Growth		
Investment Grade Corporate Fixed Income	\$0	0.0%
High Yield Fixed Income	\$15,163,820	2.5%
Emerging Markets Debt	\$15,127,937	2.5%
U.S. Large Cap	\$113,584,965	18.5%
U.S. Small & Mid Cap	\$33,506,803	5.5%
Developed Market - Non-U.S. Equity	\$62,899,169	10.3%
Emerging Markets Equity	\$25,361,340	4.1%
Private Credit	\$18,779,814	3.1%
Private Equity	\$113,495,275	18.5%
Subtotal	\$397,919,123	64.9%
Real & Diversifying		
Commodities	\$9,253,858	1.5%
Hedged Strategies	\$0	0.0%
Public Real Estate	\$20,667,645	3.4%
Private Real Estate	\$17,129,025	2.8%
Subtotal	\$47,050,528	7.7%
TOTAL PORTFOLIO	\$613,031,150	100.0%



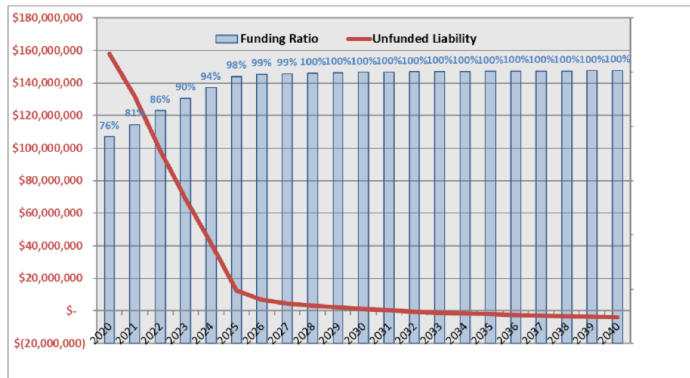
- Defensive
- Growth
- Real & Diversifying

NET PERFORMANCE SUMMARY

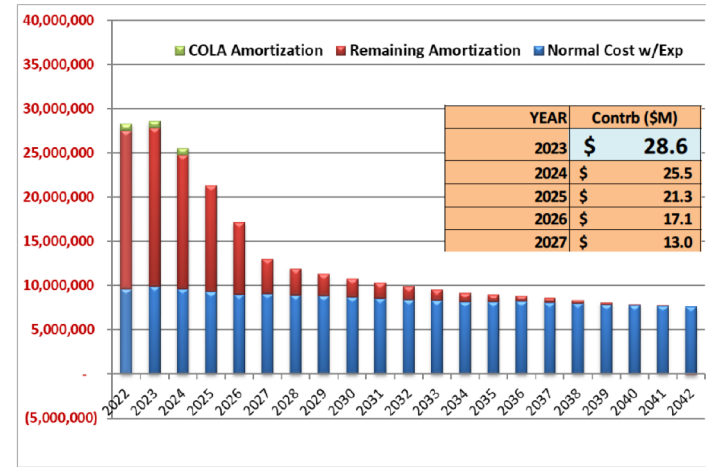
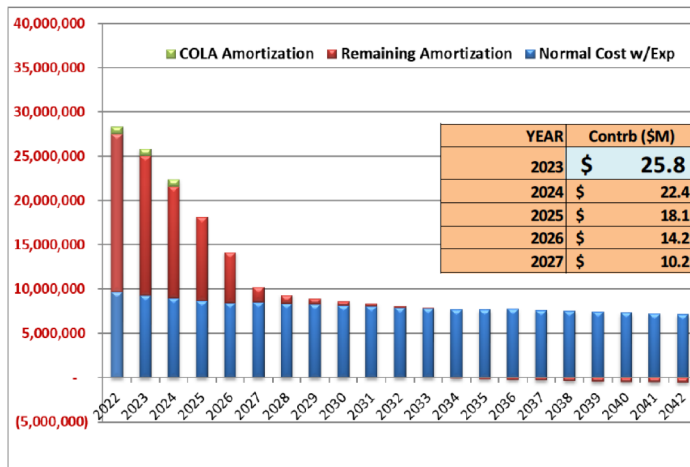
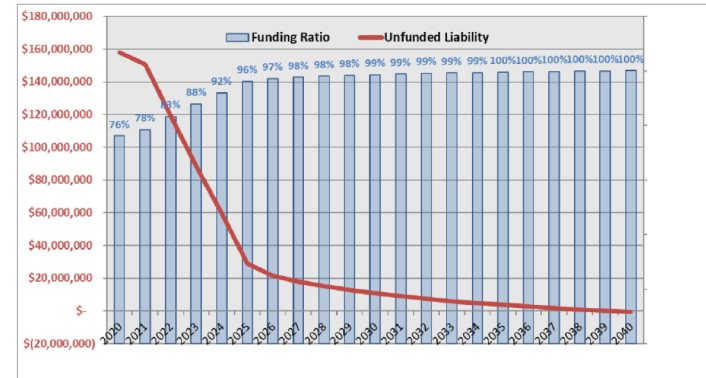
DESCRIPTION	Town of Greenwich Portfolio	Policy Benchmark	Allocation Benchmark
1 Month	3.13	2.10	3.32
3 Months	8.83	6.55	8.95
Fiscal Year to Date	26.54	18.22	24.22
Calendar Year to Date	10.76	8.06	10.97
1 Year	26.54	18.22	24.22
3 Years	10.59	9.50	9.81
5 Years	10.98	10.05	10.17
10 Years	8.32	8.00	8.18
NB Since Inception 07/03/2017	10.15	9.20	9.05

Graphs of Future ADECs (assuming 6.25% and 6.00% returns)

6.25%



6.00%



Source: Greg Stump